

**A. AMENDMENTS TO CLAIMS**

Please cancel Claims 2, 11, 20, 29 and 37-56, amend the claims as indicated hereinafter and add new Claims 57-68.

1. (CURRENTLY AMENDED) A communications receiver comprising:  
a time domain equalizer;  
a frequency domain equalizer; and  
an update mechanism configured ~~to~~ to update both the time domain equalizer and the frequency domain equalizer based upon ~~performance data that indicates~~ performance of a communications channel from which the communications receiver receives data, wherein updating the time domain equalizer includes determining first performance data that reflects performance of the time domain equalizer when the time domain equalizer is operating with a first set of coefficients,  
determining second performance data that reflects performance of the time domain equalizer when the time domain equalizer is operating with a second set of coefficients,  
selecting for use by the time domain equalizer, based upon the first performance data and the second performance data , either the first set of coefficients or the second set of coefficients, and  
causing the time domain equalizer to use the selected set of coefficients.  
~~determining a relative performance of the time domain equalizer when operating with first and second sets of equalizer coefficients by determining signal to noise ratios of data received by the communications receiver when the time domain equalizer is operating with the first and second sets of equalizer coefficients; and~~  
~~update bit allocation among tones based upon the determined signal to noise ratios.~~

2. (CANCELED)

3. (CURRENTLY AMENDED) The communications receiver as recited in Claim 1, wherein the update mechanism is further configured to ~~generate the~~ determine the first and second performance data based upon synchronization symbols received by the communications receiver.
- 4-7. (CANCELED)
8. (ORIGINAL) The communications receiver as recited in Claim 1, wherein the communications receiver is a digital subscriber line communications receiver.
9. (ORIGINAL) The communications receiver as recited in Claim 1, wherein the communications receiver is part of a discrete multitone communications system.
10. (CURRENTLY AMENDED) An update mechanism configured to:  
update both a time domain equalizer and a frequency domain equalizer in a communications receiver based upon ~~performance data that indicates performance~~ of a communications channel from which the communications receiver receives data, wherein updating the time domain equalizer includes  
determining first performance data that reflects performance of the time domain equalizer when the time domain equalizer is operating with a first set of coefficients,  
determining second performance data that reflects performance of the time domain equalizer when the time domain equalizer is operating with a second set of coefficients,  
selecting for use by the time domain equalizer, based upon the first performance data and the second performance data , either the first set of coefficients or the second set of coefficients, and  
causing the time domain equalizer to use the selected set of coefficients.  
~~determining a relative performance of the time domain equalizer when operating with first and second sets of equalizer coefficients by determining signal to noise ratios of data received by the communications receiver when the time domain equalizer is operating with the first and second sets of equalizer coefficients; and~~

~~update bit allocation among tones based upon the determined signal to noise ratios.~~

11. (CANCELED)
12. (CURRENTLY AMENDED) The update mechanism as recited in Claim 10, wherein the update mechanism is further configured to ~~generate the~~ determine the first and second performance data based upon synchronization symbols received by the communications receiver.
- 13-16. (CANCELED)
17. (ORIGINAL) The update mechanism as recited in Claim 10, wherein the communications receiver is a digital subscriber line communications receiver.
18. (ORIGINAL) The update mechanism as recited in Claim 10, wherein the communications receiver is part of a discrete multitone communications system.
19. (CURRENTLY AMENDED) A method for configuring a communications receiver comprising:
  - updating both a time domain equalizer and a frequency domain equalizer contained in the communications receiver based upon ~~performance data that indicates performance~~ of a communications channel from which the communications receiver receives data, wherein updating the time domain equalizer includes
    - determining first performance data that reflects performance of the time domain equalizer when the time domain equalizer is operating with a first set of coefficients,
    - determining second performance data that reflects performance of the time domain equalizer when the time domain equalizer is operating with a second set of coefficients,
    - selecting for use by the time domain equalizer, based upon the first performance data and the second performance data , either the first set of coefficients or the second set of coefficients, and

causing the time domain equalizer to use the selected set of coefficients.

~~determining a relative performance of the time domain equalizer when operating with first and second sets of equalizer coefficients by determining signal to noise ratios of data received by the communications receiver when the time domain equalizer is operating with the first and second sets of equalizer coefficients; and~~  
~~updating bit allocation among tones based upon the determined signal to noise ratios.~~

20. (CANCELED)

21. (CURRENTLY AMENDED) The method as recited in Claim 19, further comprising ~~generate the~~ determining the first and second performance data based upon synchronization symbols received by the communications receiver.

22-25. (CANCELED)

26. (ORIGINAL) The method as recited in Claim 19, wherein the communications receiver is a digital subscriber line communications receiver.

27. (ORIGINAL) The method as recited in Claim 19, wherein the communications receiver is part of a discrete multitone communications system.

28. (CURRENTLY AMENDED) A computer-readable medium ~~carrying one or more sequences of one or more instructions~~ for configuring a communications receiver, the ~~one or more sequences of one or more~~ computer-readable medium carrying instructions including instructions which, when ~~executed~~ processed by one or more processors, cause: updating both a time domain equalizer and a frequency domain equalizer contained in the communications receiver based upon ~~performance data that indicates performance~~ of a communications channel from which the communications receiver receives data, wherein updating the time domain equalizer includes determining first performance data that reflects performance of the time domain equalizer when the time domain equalizer is operating with a first set of coefficients,

determining second performance data that reflects performance of the time domain equalizer when the time domain equalizer is operating with a second set of coefficients,  
selecting for use by the time domain equalizer, based upon the first performance data and the second performance data , either the first set of coefficients or the second set of coefficients, and  
causing the time domain equalizer to use the selected set of coefficients.  
~~determining a relative performance of the time domain equalizer when operating with first and second sets of equalizer coefficients by determining signal to noise ratios of data received by the communications receiver when the time domain equalizer is operating with the first and second sets of equalizer coefficients; and~~  
~~updating bit allocation among tones based upon the determined signal to noise ratios.~~

29. (CANCELED)

30. (CURRENTLY AMENDED) The computer-readable medium as recited in Claim 28, further comprising one or more additional ~~sequences of one or more~~ instructions which, when ~~executed~~ processed by the one or more processors, cause ~~the one or more processors to generate the~~ determining the first and second performance data based upon synchronization symbols received by the communications receiver.

31-34. (CANCELED)

35. (ORIGINAL) The computer-readable medium as recited in Claim 28, wherein the communications receiver is a digital subscriber line communications receiver.

36. (ORIGINAL) The computer-readable medium as recited in Claim 28, wherein the communications receiver is part of a discrete multitone communications system.

37-56. (CANCELED)

57. (NEW) The communications receiver as recited in Claim 1, wherein:

the first performance data reflects one or more signal to noise ratios of data received by the communications receiver when the time domain equalizer is operating with the first set of coefficients; and

the second performance data reflects one or more signal to noise ratios of data received by the communications receiver when the time domain equalizer is operating with the second set of coefficients.

58. (NEW) The communications receiver as recited in Claim 1, wherein:  
the communications receiver uses an initial bit allocation; and  
the update mechanism is further configured to  
determine an updated bit allocation based upon the first and second performance data, and  
cause the communications receiver to use the updated bit allocation.
59. (NEW) The communications receiver as recited in Claim 1, wherein the update mechanism is further configured to perform gain adjustments on tones based upon the first and second performance data.
60. (NEW) The update mechanism as recited in Claim 10, wherein:  
the first performance data reflects one or more signal to noise ratios of data received by the communications receiver when the time domain equalizer is operating with the first set of coefficients; and  
the second performance data reflects one or more signal to noise ratios of data received by the communications receiver when the time domain equalizer is operating with the second set of coefficients.
61. (NEW) The update mechanism as recited in Claim 10, wherein:  
the communications receiver uses an initial bit allocation; and  
the update mechanism is further configured to  
determine an updated bit allocation based upon the first and second performance data, and

cause the communications receiver to use the updated bit allocation.

62. (NEW) The update mechanism as recited in Claim 10, wherein the update mechanism is further configured to perform gain adjustments on tones based upon the first and second performance data.
63. (NEW) The method as recited in Claim 19, wherein:  
the first performance data reflects one or more signal to noise ratios of data received by  
the communications receiver when the time domain equalizer is operating with  
the first set of coefficients; and  
the second performance data reflects one or more signal to noise ratios of data received  
by the communications receiver when the time domain equalizer is operating with  
the second set of coefficients.
64. (NEW) The method as recited in Claim 19, wherein:  
the communications receiver uses an initial bit allocation; and  
the method further comprises  
determining an updated bit allocation based upon the first and second  
performance data, and  
causing the communications receiver to use the updated bit allocation.
65. (NEW) The method as recited in Claim 19, further comprising performing gain adjustments on tones based upon the first and second performance data.
66. (NEW) The computer-readable medium as recited in Claim 28, wherein:  
the first performance data reflects one or more signal to noise ratios of data received by  
the communications receiver when the time domain equalizer is operating with  
the first set of coefficients; and  
the second performance data reflects one or more signal to noise ratios of data received  
by the communications receiver when the time domain equalizer is operating with  
the second set of coefficients.

67. (NEW) The computer-readable medium as recited in Claim 28, wherein:  
the communications receiver uses an initial bit allocation; and  
the computer-readable medium further comprises one or more additional instructions  
which, when processed by the one or more processors, causes  
determining an updated bit allocation based upon the first and second  
performance data, and  
causing the communications receiver to use the updated bit allocation.
68. (NEW) The computer-readable medium as recited in Claim 28, further comprises one or  
more additional instructions which, when processed by the one or more processors,  
causes performing gain adjustments on tones based upon the first and second  
performance data.